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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,260	12/11/2003	Colin Whitby-Stevens	APPLE.049A	9784
65201 7590 03/09/2009 GAZDZINSKI & ASSOCIATES, P.C. 11440 WEST BERNARDO COURT SUITE 375 SAN DIEGO, CA 92127			EXAMINER ABRAHAM, ESAW T	
			ART UNIT 2112	PAPER NUMBER
			MAIL DATE 03/09/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/735,260

Applicant(s)

WHITBY-STREVS ET AL.

Examiner

ESAW T. ABRAHAM

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 74-100 is/are pending in the application.
- 4a) Of the above claim(s) 101-119 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 74-100 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/11/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

- The reply filed November 25, 2008 has been received and entered.

Election/Restrictions

Newly submitted claims 101-119 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claims 101 is directed to “encoding a first stream of symbolsand second stream of symbols from the first stream, wherein the bit length of each symbol in the second stream is equal to a bus width” (as in claim 101) and a computer readable medium having a storage medium...encode a symbol...and encode a set of bytes comprising each bit from the symbol...(as in claim 111). Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by **original presentation for prosecution on the merits**. Accordingly, claims 101-119 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Response to Amendment

- Specification objections are withdrawn in light of amendments/remarks.
- The objection to claim objections is withdrawn in view of the applicant's amendments.
- Applicant's amendments do not appropriately address the rejection of claims 68-73 under 35 U.S.C. § 101. Additional clarification is provided in the discussion of the rejection maintained below.

Response to argument

Applicant with regard to claim 68 argues that “Applicant directs the Examiner’s attention to, *inter alia*, paragraph [0026] of Applicant’s specification as filed, which clearly contemplates embodiments of the invention being implemented in *either hardware or software*. Further, Applicant submits that there is nothing in Applicant’s claimed language which necessitates that the disclosed modules be “*software per se*”.

*The examiner respectfully disagrees since paragraph [0026] teaches “Embodiments of the present invention can be incorporated into logic contained in PHY 106, or elsewhere as needed. Embodiments of the present invention **can utilize computer program products** “modules” in the form of software or hardware”. Therefore, the applicants’ argument although acknowledged, has not been found to be convincing. Further, additional clarification is provided in the discussion of the rejection maintained below.*

Applicant argues that “Applicant submits that the particular language asserted to be unclear by the Examiner is in fact sufficiently clear given Applicant’s disclosure at, for example, paragraph [0027] of Applicant’s specification as filed, which discloses how the MSB and LSB are utilized to indicate a symbol type.

The examiner respectfully disagrees since Paragraph [0027] only teaches “a method that protects symbol types by characterizing symbols (act 300) as one of two types - DATA or NON DATA, generating a symbol characterization bit (act 302), placing the symbol characterization bit at both ends of the symbol (act 304), and transmitting the symbol with the symbol characterization bits at both ends (act 306). Thus, a single byte error may affect a type bit in two consecutive symbols, and will affect one or the other of the type bits in a single symbol, but cannot affect both type bits in a single symbol. Having protected the symbol type, encoding

in accordance with the present invention protects at least one of a pair of control symbols by using alternate encodings for symbols in positions A and B and for symbols in position C and D as well” **not** “a most significant bit and a least significant bit of said symbol indicate at least a type of said symbol”. Therefore, the Examiner maintains the 112, 2nd rejection”.

Applicant argues that "paragraph [0025], among other passages of Applicant's specification as filed, explains how the encoding increases the reliability of the data transmission”

The Examiner respectfully disagrees since paragraph [0025] only teaches “One feature of the 802.3 Clause 40 signaling scheme described above is that errored bytes are flagged as such. Thus one element of robustness provided by embodiments of the present invention can take advantage of this feature, and the receiving port can take special action on receipt of an errored byte” **not how the encoding** increases the reliability of the data transmission. Therefore, the Examiner maintains the 112, 2nd rejection. The prior art rejection will remain until and unless a clear understanding is made of the claims. Furthermore, if Applicants believe an interview will be useful in understanding the Examiner's position, then they are welcome to contact the Examiner.

As for the reference, Brief does not teach “*a most significant bit and a least significant bit of said symbol indicate at least a type of said symbol*”, this is not relevant as this feature is not detailed in the claim language. The interpretation of the claim language must be as broad as possible for the given art. If the Applicant needs a specific interpretation of the claim language, these details (as in paragraph 0027) must be imported into the claims. These details cannot be

read into the claim language when the claim language is so broad as to encompass other valid interpretations.

Status of Claims

1. Claims 57-73 are pending.

Claim Rejections - 35 USC § 112, 2nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims **57-73** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim **57** recites, “a most significant bit and a least significant bit of said symbol are adapted to indicate a symbol type”. It is unclear how the most significant bit and the least significant bit affect the symbol to indicate a symbol type. For example, the symbol type could be indicated only if the most significant bit and the least significant bit satisfy a certain condition.

Further, it is unclear how the reliability of transmitting data increases by only indicating a symbol type since there must be some mechanism or techniques such as “detecting, checking, correcting or inverting” the bits within the symbol for increasing the reliability.

Claim **68** recites, “the first module is adapted to indicate a symbol type by setting or resetting both a most significant bit and a least significant bit of said symbol. It is unclear how most significant bit and a least significant bit of said symbol affect the symbol to indicate a

symbol type. For example, the symbol type could be indicated only if the most significant bit and the least significant bit satisfy a certain condition.

Further, claim 68 claims an apparatus, however, there are no elements or components given in the claim which could be interpreted as being a "a computerized apparatus". In order for an apparatus to be a physical object, at least one recited element must be hardware. 'Computer-based' does not provide hardware structure particularly since there is nothing that can be considered hardware in the body of the claims.

3. Claim 68 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

The omitted structural cooperative relationships are: A computerized apparatus comprising: a first module to encode... and a second module to transmit....

Claims **58-67 and 69-73** are at least rejected for their dependencies, directly or indirectly, on the rejected claims 57 and 68 above. Appropriate correction and/or clarification are requested.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 68-73 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 68 fails to fall within the statutory category of invention. It is directed to the program itself, not a process (method) occurring as a result of executing the program, a machine

programmed to operate in accordance with the program not a manufacture structurally and functionally interconnected with the program in a manner which enables the program to act as a computer component and realize its functionality. It is also clearly not directed to a composition of matter. Therefore it is non-statutory under 35 USC 101. Although the preamble of independent claim 68 calls for a computerized apparatus, the claim combination recites electronic form and source codes which are not process, machine, manufacture or composition of matter.

The claims as written attempt to gain a patent on every "substantial practical application of an abstract algorithm/idea. The courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852. See *Le Roy v. Tatham*, 55 U.S. 156, 175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 132, 76 USPQ 280, 282 (1948) (combination of six species of bacteria held to be nonstatutory subject matter). Accordingly, one may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent would "in practical effect be a patent on the [idea, law of nature or natural phenomena] itself." *Gottschalk v. Benson*, 409 U.S. 63, 71-72, 175 USPQ 673,676 (1972). Simply put, claims that describe features in the Applicant's specification at the Abstract level without any regard to functional utility are nonstatutory.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S. C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 57-73 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Brief et al. (U.S. PN: 5,875,210) "hereinafter as Brief".

As per claim 57:

Brief substantially teaches a method of reliably transmitting data across a communication medium (see col. 1, lines 37-40) comprising encoding a symbol comprising a plurality of bits, wherein a most significant bit and a least significant bit of said symbol are adapted to indicate a symbol type and transmitting the symbol across the communication medium; wherein said encoding increases the reliability Of said transmitting data (see col. 2, lines 54-60, col. 11, lines 17-67 and col. 16, lines 6-67 to col. 17, lines 1-67).

As per claim 58:

Brief in view of the above rejection teaches wherein the symbol is encoded with said most significant bit identical to said least significant bit (see col. 16, lines 6-67 to col. 17, lines 1-67).

As per claim 59:

Brief in view of the above rejection teaches wherein the symbol consists of eight bits (see col. 16, lines 6-67 to col. 17, lines 1-67).

As per claims 60:

Brief in view of the above rejection teaches wherein the symbol type corresponds to either a first type or a second type (see col. 16, lines 6-67 to col. 17, lines 1-67)

As per claims 61-65:

Brief in view of the above rejection teaches wherein if said most significant bit and said least significant bit both comprise a high bit, the symbol type corresponds to one of the first and second type, and if the most significant bit and the least significant bit of the symbol both comprise a low bit, the symbol type corresponds to the other of the first and second types (see col. 2, lines 54-60, col. 11, lines 17-67 and col. 16, lines 6-67 to col. 17, lines 1-67).

As per claims 66 and 67:

Brief in view of the above rejection teaches wherein said communication medium comprises a bus compliant with a high-speed serialized bus protocol (see col. 1, lines 17-21 and col. 19, lines 1-7).

As per claim 68:

Brief substantially teaches a computerized apparatus (see col. 1, lines 37-40) for transmitting data across a communication medium, said apparatus comprising a first module adapted to encode a symbol comprising a plurality of bits, wherein the first module is adapted to

indicate a symbol type by setting or resetting both a most significant bit and a least significant bit of said symbol; and a second module adapted to transmit the encoded symbol across the communication medium (see col. 2, lines 54-60, col. 11, lines 17-67 and col. 16, lines 6-67 to col. 17, lines 1-67).

As per claims 69-71:

Brief in view of the above rejection teaches wherein the symbol type corresponds to either a first type or a second type; wherein if the most significant bit and the least significant bit of the symbol are both set, the symbol type corresponds to the first type, and if the most significant bit and the least significant bit of the symbol are both reset, the symbol type corresponds to the second type (see col. 2, lines 54-60, col. 11, lines 17-67 and col. 16, lines 6-67 to col. 17, lines 1-67).

As per claims 72 and 73:

Brief in view of the above rejection teaches wherein said communication medium comprises a bus compliant with a high-speed serialized bus protocol (see col. 1, lines 17-21 and col. 19, lines 1-7).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Esaw T. Abraham whose telephone number is (571) 272-3812. The examiner can normally be reached on M-F 8am-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Esaw T Abraham/

Primary Examiner, Art Unit 2112